ABSTRACT
                The Kentucky Department of Education and the National
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requirement to be used in its undergraduate and graduate teacher education
programs. The portfolio requirement incorporates a system that students use
to document the achievement of meeting the New Teacher Standards for
Preparation and Certification (NTS) and the Experienced Teacher Standards for
Preparation and Certification (ETS) from the Kentucky Department of Education
and the guidelines from learned societies. The NTS measure the performance of
preservice and intern teachers. The ETS measure the performance of teachers
who are participating in an inservice development program. The use of
integrated technologies will play a major role in the development of a
program candidate's portfolio. Portfolio entries may be in any physical
format such as print, video and sound recordings, transparencies, slides,
CD-ROMs, and disks. What is essential is that there be integration of all
technologies, used as tools or displayed as products. The purpose of this
paper is to explain how integrated technologies will be incorporated into the
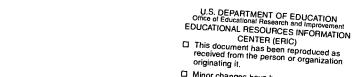portfolio process. (Author/AEF)

Integrated Technologies and Teacher Portfolios

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INTEGRATED TECHNOLOGIES AND TEACHER PORTFOLIOS

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The Kentucky Department of Education and the National Council for Accreditation in Teacher Education guidelines direct institutions of higher education to plan a continuous assessment component in their pre-service and in-service teacher education programs. To meet these guidelines, Eastern Kentucky University (EKU) has created a portfolio requirement to be used in its undergraduate and graduate teacher education programs. The portfolio requirement incorporates a system that students use to document the achievement of meeting the New Teacher Standards for Preparation and Certification (NTS) and the Experienced Teacher Standards for Preparation and Certification (ETS) from the Kentucky Department of Education (1994a & 1994b) and the guidelines from learned societies. The New Teacher Standards measure the performance of pre-service and intern teachers. The Experienced Teacher Standards measure the performance of teachers who are participating in an in-service development program. The use of integrated technologies will play a major role in the development of a program candidate's portfolio. The purpose of this paper is to explain how integrated technologies will be incorporated into the portfolio process.

New and Experienced Teacher Standards

The New Teacher Standards for Preparation and Certification describe what beginning teachers should know and be able to do in authentic teaching situations. Each of the eight general standard statements describes the category of teaching tasks that beginning teachers should be able to perform. Each standard is followed by a set of performance criteria to be used in assessing the actual quality of performance of first-year teaching candidates. Within the portfolio, each pre-service teacher is expected to document and record his/her performance on specific authentic teaching tasks. Thus, the portfolio is expected to contain examples of quality performance within the categories of designing and planning instruction, implementing and managing instruction, creating and maintaining learning climates, assessing and communicating learning results, reflecting on teaching and learning, collaborating with colleagues and parents, engaging in professional development, and demonstrating knowledge of content. The standards and the performance criteria are not designed as checklists, but rather are to be considered holistically in assessing the performance of pre-service and beginning teachers.

The Experienced Teacher Standards include and exceed the New Teacher Standards with additional criteria and a standard that characterizes what effective, experienced teachers should be able to know and do. The Experienced Teacher Standards stress instructional processes that demonstrate an understanding of the academic, social, emotional, and physical needs of each learner. Experienced teachers are also expected to demonstrate professional leadership within the school, community, and educational profession. The portfolio for experienced teachers contains examples of demonstrated quality performance using authentic teaching situations and a combination of continuing education, professional development and leadership.

Undergraduate Portfolios and Professional Development Plans

At the undergraduate level, teacher education majors at EKU will initiate a portfolio in their first education course, Introduction to Education, EDF 103, (or Transition to Education, EDF 310, for transfer students). They will be given a packet of information containing portfolio guidelines including definitions of terminology, description of format, and expectations of content for the portfolio. They will be required to purchase a binder and divider tabs for organizing

3

portfolio pieces that will be keyed to Kentucky's eight New Teacher Standards. The portfolio pieces will be completed as part of course assignments in subsequent required courses.

Each course will have one performance task/product that is related to one of the New Teacher Standards and that will be evaluated by the instructor using a holistic scoring guide. Students will choose their best efforts from among these products and file them in the binder along with the instructor's evaluation to demonstrate their progress toward meeting the New Teacher Standards. Although there are eight standards, a student could include fewer than eight products by explaining how some products document growth in more than one standard.

The teacher education portfolios will be presented and evaluated at three points as students progress through the teacher education program. The first presentation will occur at an interview required for admission to the program. At this point, students will meet with their academic advisor and one additional faculty member. The portfolio will be evaluated for recommended format, and it should contain a letter of presentation and reflection, a statement of educational philosophy, an autobiography, an optional personal entry, and two or more performance tasks from EDF 103 or EDF 310. At least one of these tasks must have been scored at by the instructor at level 2 or above on the 4 level scoring guide.

The second presentation will occur at an interview for admission to student teaching. The portfolio at this point should contain performance tasks that demonstrate a minimum competency across all eight New Teacher Standards at level 2, with at least half scored at level 3 or above. It should also contain documentation of a service learning project. The third and final presentation will occur at a program exit interview following the student teaching semester. Items added at this point will include a videotaped lesson from student teaching and the student's reflection on this lesson, performance tasks from student teaching, and the added criteria that no task is scored below level 3.

Professional development plans will be addressed in the portfolios in connection with Standard 7, engaging in professional development. Students' reflections will provide a basis for plans designed to improve their own performance and expand their teaching repertoire. Professional development activities will include items such as course work, the student teaching experience, the service learning project, and evidence of attendance and participation at professional meetings and workshops.

The use of technology in the development of undergraduate portfolios will be encouraged from the beginning of the process and will include a variety of approaches. For example, in the first class, students can access and print the required packet in the College of Education computer lab. Education classes will require the use of word processing for performance tasks, and other productivity software will be used for specific products (e.g. writing and illustrating a patterned language book).

Graduate Portfolios and Professional Improvement Plans

Beginning in the spring semester 1998, a Professional Improvement Plan (PIP) and Graduate Professional Portfolio (GPP) will become part of the Master of Arts in Education (M.A. Ed.) degree and the Rank II non-degree programs. For example, the M.A. Ed. in primary through fifth grade program consists of 15 hours of Professional Education Core, 12 hours of Subject Matter, and 3 hours of Elective course work. The Rank II non-degree program is a coordinated program of study that guides the student through 32 credit hours that meet Kentucky Department of Education guidelines. This program consists of 12 hours of Professional Education Core, 12 hours of Subject Matter, and 8 hours of Selected Elective course work.

Within the first six credit hours of either program, students are to enroll in the required curriculum course. In this course, the students will be introduced to the Graduate Professional Portfolio and will write a personal Professional Improvement Plan. The students will provide information about how they plan to improve their professional performance in each of the nine Experienced Teacher Standards. The student will use the portfolio to display artifacts providing information about performances that meet the improvement plan. Entries in the portfolio and the PIP must reflect growth in each ETS.

Each course taken throughout the program should provide students with opportunities to move toward fulfillment of the PIP. A performance or product from each course in the student's graduate program could also provide appropriate portfolio entry materials. The students will decide what materials from the activities experienced during in their programs will be placed into their portfolio and how those experiences fulfill their PIP.

At the end of the Master of Arts in Education degree program a comprehensive assessment will provide the student and his/her graduate committee an opportunity to assess the fulfillment of the PIP and completion of the GPP. The portfolio should contain artifacts that provide evidence that the performance criteria for each of the nine Experienced Teacher Standards were met. Students in the non-degree Rank II program will meet with their advisor for an exit interview. Using a planned format, the advisor will conduct an assessment exit interview focusing upon the completion of the PIP and the GPP.

The first experience in providing graduate students with information about the PIP and GPP will occur in Spring 1998. Each professor who teaches a graduate curriculum course will incorporate information during course time that concerns the PIP and GPP. Information will be provided to help

students begin their portfolios and write their PIPs. The elementary curriculum course will be offered as a distance learning opportunity that utilizes interactive television (viz., Kentucky Telelinking Network, KTLN). Students at distant sites will have the opportunity to learn about curriculum and the new PIP and GPP program requirements. It is believed that more students can obtain information about new program requirements through this medium.

Learned Societies Guidelines

Competencies identified by the professional organizations or learned societies of the disciplines of the graduate and undergraduate programs must be a part of students' portfolios. Performance events or assignments that result in a product other than a paper and that reflect mastery of a competency will be a required entry. One way that this will be achieved is through the use of integrated technologies.

Integrated Technologies

Seels and Richey (1994) in their book, *Instructional technology: the definition and domain of the field*, define integrated technologies as "...ways to produce and deliver materials which encompass several forms of media under the control of the computer" (p.40). The "media" within this definition includes several forms of integrated hardware and software. To illustrate, digitized information from photographs, video segments from tapes or disks, hypermedia authoring tools, web-based development, networking software, audiographics, and interactive television are all examples of media being controlled by the computer.

Extending the definition of instructional technologies, Seels & Richey (1994) also define the domains of utilization and development of media. Utilization refers to "...using processes and resources for learning" (p. 46). Examples of integrated media utilization include use of specific software within content areas and audiovisual materials such as videotapes, film, transparencies, and CD-ROMs. The important ingredients of utilization are the introduction and follow up activities. On the other hand, development of media is "...the process of translating the design specifications into physical forms" (p. 35). These physical forms may include manuals, books, photography, line drawing, mathematical graphs, video and sound recordings, transparencies, slides, computer-based instruction (e.g., tutorials, drill and practice, games and simulations, databases), authoring tools for hypermedia, and authoring tools for developing web pages. Two current trends in development of integrated technologies are a greater integration of: (a) print technologies and audiovisual technologies with authoring tools for hypermedia and web pages, and (b) technologies for distance learning environments.

Seels & Richey's definitions provide a useful structure when considering portfolio development for graduate and undergraduate students. While the Kentucky New and Experienced Teacher Standards combined with the learned

societies competencies serve as a framework for the organization and management of the portfolios, the utilization and development of integrated media forms provide for infusion of instructional technologies into the portfolio process. As graduate and undergraduate students prepare portfolio entries, the use of integrated technologies includes four aspects: a) systematic matching of learners with instructional resources, materials, or both; b) developing lesson plans that demonstrate learners' interaction with the resources, materials, or both; c) guiding learners while they are engaged with the resources, materials, or both; and d) assessing results achieved by the learners after they are engaged (Seels & Richey, 1994). What is most important to consider for each portfolio entry, constructed by the graduate or undergraduate student is the "interface" between the learner and the resources, materials, or both.

Sample portfolio entries that demonstrate utilization of integrated technologies into a portfolio are varied. One example would be when graduate students, undergraduate students, or both are given the task of preparing a learning environment with an interdisciplinary approach to content. P-12 students in this learning environment might be required to collaborate, research, present, and develop a product for a particular concept (e.g., the effects of war on children). The first step for the graduate or undergraduate student may be designing and implementing lesson plans for helping the P-12 students develop or refine search strategies, develop or refine research skills, and evaluate resources. This process might be introduced by discussing search structures for the various integrated technologies including print, CD-ROM, and web-based reference resources and materials. Results of the search may include locating credible videotapes. At this time, the graduate or undergraduate student may choose to model selecting and implementing videoclips in a presentation for the P-12 students. Effective use of videotapes in classrooms generally requires selecting videoclips so that particular concepts may be reinforced or learners may construct generalizations. In this example, each of the lesson plans designed by the graduate or undergraduate student, along with documentation (videotape of the lesson) can be incorporated into the appropriate Kentucky new or experienced teacher expectations and learned society competencies. In addition, the graduate or undergraduate students may want to enhance their portfolios by including entries demonstrating the manipulation of the resources and materials into development a product, thus moving into the domain of development.

Integrating technologies within the development domain involves graduate students, undergraduate students, or both forming products by constructing physical forms of media for utilization. These entries or products are then organized by filling in the appropriate area of new or experienced teacher expectations and learned society competencies, thus documenting achievement of standards.

5

Utilization of these products may occur through opportunities for providing professional development for colleagues, collaboration with colleagues, or through use by P-12 students. Portfolio entries should provide evidence of using a variety of integrated technologies such as productivity tools, hypermedia authoring tools, presentation software, web-based tools, and distance learning tools. Thus, the domain of development involves the synthesis of information into a new product so that a concept is illustrated or problem-solving situations are presented to the learner. This product may contain new text, visuals (e.g., photographs and line drawings) which are created on a computer, scanned, or imported to enhance the text or videoclips selected from film, video, or videodisks. In addition, new video may be produced and edited to further illustrate a concept, to provide oral histories, or to demonstrate a dramatic play. Finally, sound may be selected from previous resources or new sound created to reinforce the concepts. Web sites may be referenced so that the learner (viz., the one interacting with the product) may further investigate/ research the concept or topic. Using information synthesized from these searches a web site may be constructed to focuses on the concept.
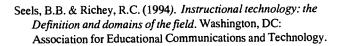
Summary

All students in the undergraduate Teacher Education Program, the Master of Arts in Education, non-degree Rank II and Rank I programs are required to submit portfolios prior to the completion of their programs. The content of the portfolio is determined by the competencies of the Kentucky New Teacher Standards for Preparation and Certification (1994b), the Experienced Teacher Standards for Preparation and Certification (1994a), and the learned societies of the various disciplines. Entries or artifacts in the portfolios are indicators of the performance and mastery of the competencies by the preservice or experienced teacher.

The use of integrated technologies in the production of the portfolio is strongly encouraged. The technologies must be incorporated so that the infusion of instructional technologies across the curriculum becomes transparent, and the use of the technologies in teaching is automatic. Portfolio entries may be in any physical format such as print, video and sound recordings, transparencies, slides, CD-ROMs, and disks. What is essential is that there be integration of all technologies, used as tools or displayed as products.

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